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HOLOSPIRA KRIEGERI, NEW SPECIES, FROM TAMAULIPÁS

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Early in May of 1949, Alex D. Krieger, Research Archaeologist, University of Texas, and Glen L. Evans, Assistant Director, Texas Memorial Museum, visited the scenes of recent archaeological investigations in the states of Tamaulipas and Vera Cruz. During this trip, Krieger collected nonmarine mollusk shells from sites in the two states and turned them over to the writer for his research in ethnoconchology then being done in the Department of Anthropology of the University of New Mexico. In the forms so far studied, the species of landsnail of the genus *Holospira* (family Urocoptidae), herein described, has been recognized as new.

During 1945 and 1946, Richard S. MacNeish, then of the University of Chicago Department of Anthropology, made an archaeological survey of much of Tamaulipas. A report has appeared in which MacNeish described, in general, some of the cave archaeology of the Canyon del Diablo in the Sierra de Tamaulipas where the new urocoptid was later collected by Krieger. In this preliminary report, MacNeish assigns an antiquity of around 1000 years back (or better) for some of the culturally stratified materials in one of the caves investigated by him in the Canyon del Diablo.¹ In the spring of 1949, MacNeish continued with the Sierra de Tamaulipas archaeological surveying and excavated in his cave site TMc 81 in the Canyon del Diablo, Tamaulipas.

¹ MacNeish, 1947, p. 3.

It was from the upper cultural level of this so designated site that Krieger collected the nonmarine shells containing the new urocoptid which is named in his honor.²

It is not surprising that nonmarine shells and other natural objects are found *in situ* in archaeological deposits in caves or rock shelters. Some mollusks are very apt to inhabit caves in limestone country; especially if such physiographic features have springs in them which afford humid conditions particularly favorable for landsnails. Others may be washed by cloudbursts or permanent running water down into caves from cliff or mesa top shell habitats above, and be worked into the deposit being built up at the time, along with soil, rocks, roof falls, guano, ash, etc. Small freshwater clam or snail shells may have come into a cave site by being dipped up into containers when water was obtained from nearby water bodies. Both land and freshwater shells could be carried into sites when they were clinging to foliage for later use, or driftwood to burn or work.

HOLOSPIRA KRIEGERI, new species. Plate 4, fig. 9.

Holotype: Shell small, pale brown, of pupoid shape, and with the last half of the last whorl solute. The nuclear whorls are well rounded and microscopically granulose. The succeeding whorls are moderately rounded, separated by a strongly impressed suture, and marked by decidedly retractive oblique axial ribs which are feebly developed on the early turns but increase in intensity with the increasing whorls. On the middle turns the axial ribs are about as wide as the spaces that separate them; on the later turns they are more distantly spaced, being only about half as wide as the intercoastal spaces on the last whorl. The last whorl is contracted basally. The outside of the parietal wall is marked by a groove on each side across which the axial ribs do not extend. The aperture is broadly ovate and pointed toward the junction of the outer and parietal wall. The peristome is pale brown, thickened, and reflected. The interior of the aperture is pale brown. The columella is solid with a strong twist which develops into a low rounded lamella a little posterior to the basal wall in the penultimate whorl. The basal wall in the same turn bears an indication of another fold while the middle of the parietal and labial wall bear another short, but much stronger, fold in the same whorl.

² Letter, dated 27 May 1949.

The holotype (U. S. National Museum Division of Mollusks, 601629) has 10 whorls and measures: length, 10 mm.; diameter of the middle whorls, 2 mm. It was collected on 7 May, 1949, by Alex D. Krieger, in the upper cultural level of site TMe 81, Canyon del Diablo, Sierra de Tamaulipas, Tamaulipas, Mexico.

Paratypes: Only two whole specimens (U. S. National Museum Division of Mollusks, 601648; Drake Molluscan Collection, 1480) were collected by Krieger. D. M. C. 1568 contains four fragmentary shells of *Holospira kriegeri* collected with the holotype.

Discussion: On the aperture of one paratype (D. M. C. 1480) there is a very slight suggestion of a projection a bit back from the edge of the horizontal margin. Such projections are moderately developed in the Texas species *Holospira goldfussi* (Menke),³ and in *H. rehderi* Bartsch and *H. morelosensis* Bartsch⁴ from the Mexican states of Puebla and Morelos, respectively. The general appearance of *H. kriegeri* resembles *H. goldfussi*, *H. rehderi*, and *H. morelosensis*. However, paratype D. M. C. 1480 more strongly resembles these three forms than does the holotype of *H. kriegeri*, as the former is of more slender shape. Thus, *Holospira kriegeri* is probably a species with considerable variation, as in practically all the urocoptids.

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³ Pilsbry, 1946, p. 116, figs. 1-3.

⁴ Bartsch, 1947, pp. 287-288, figs. 2, 4.